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EDITORIAL

New power networks in educational technology

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The figure of the network has featured prominently in research on education, media and technology in recent years. In movements like ‘networked learning’ and ‘connected learning’ the network opens up new opportunities for online access to resources, communication and sociality with others. It appears to link up the formal institutions of schooling with the settings and practices of informal learning in the home, online, and on the move.

Somewhat less research in educational media and technology has focused on the ‘expert networks’ and ‘policy networks’ that are now so integral to the design, promotion, and uptake of new technical products and services within education. Expert networks and policy networks have become important points of focus in education policy research, as reflected in the title of the book *Edu.net* (Ball, Junemann and Santori 2017) and in empirically and theoretically inventive research on ‘policy mobilities’ and ‘policy assemblages’ (Gulson et al 2017; Savage 2019). Whereas the common sense view is that education policy emanates from, and is enforced by, central government departments and their agencies, research on expert networks and policy networks demonstrates new dynamics.

Policy processes are now distributed across different sectors, giving non-governmental organizations, businesses and other experts much more influence in the direction of policy, the dissemination of policy ideas, the formulation of policy advice, and the enactment of policies. The political geographers Peck and Theodore (2015) have termed this new policy condition ‘fast policy’—a form of ‘experimental statecraft’ that involves sprawling networks of nongovernmental influences. Fast policy entails the accelerated production and dissemination of policy processes, but also the distribution of policy across diverse geographical sites and national systems. It even entails the influence of ‘nonhumans’ such as software packages and analytics algorithms on the ways policy is made and done.

The networked, accelerated, fast policymaking condition has proven ideal to the expansion of educational technologies and media. ‘Edtech’ is increasingly present within formal education policies as a result of the significant effort of advocacy networks, think tanks, campaign coalitions, and business lobbying. But edtech experts and networks are also actively intervening in education systems in ways

that suggest new forms of power and influence over education and its future. Expert networks and policy networks are significant to consider in research on educational media and technology because they are playing increasingly powerful and influential roles over schools, colleges, universities, and education systems. By identifying these new power networks, we can begin to see much more clearly the dynamic political work going into ed-tech policy, but also, importantly, how educational technology companies and their promoters have become key policy actors in their own right.

Education policy about tech

Concentrating analytical attention on edtech power networks is important in the field of educational media and technology for two key reasons. One is that it invites us to consider how various interests and concerns with digital technologies come to influence *education policy about tech*. In the UK, perhaps the most obvious example is the Department for Education 2019 ‘EdTech Strategy’. Backed with £10million, the strategy was targeted not only at improving outcomes in education but with boosting the global reach of the national edtech industry:

EdTech exports are worth an estimated £170 million to the UK economy, and the strategy will deliver on the Government’s ambition for tech firms to work with the education sector and create innovative solutions to 10 key education challenges.

(<https://www.gov.uk/government/news/edtech-strategy-marks-new-era-for-schools>)

As the strategy makes clear, concerns with ‘developing a dynamic EdTech business sector’ are at the core of UK governmental interest in edtech, as the Department for Education has sought to further involve business interests, trade associations, and entrepreneurial ambitions in its formation and delivery of policy.

In the US, meanwhile, the 2015 introduction of the federal Every Student Succeeds Act has paved the way for massive investment in, and expansion of, personalized learning technologies (<https://knowledgeworks.org/get-empowered/policy-resources/essa-personalized-learning/>). Beyond being a product of ESSA, however, personalized learning benefits from significant advocacy and investment from some of the world’s most powerful funders—the Gates Foundation established by Microsoft founder Bill Gates and the Chan Zuckerberg Initiative set up as a ‘for-profit philanthropy’ by Facebook founder Mark Zuckerberg. These UK and US examples give us some sense of the increasing proximity of edtech to education policy, but alert us too that government policy interest in edtech is related to industry expansion and to the reformatory desires of major investors and funders.

We can also see how key actors use innovative digital technologies as inspiration for recommending new education policies. Promises and concerns around AI, automation and robotization at the present time, for instance, are animating

considerable efforts to re-imagine what education could and should be over coming years (Selwyn 2019). Many international organizations are coalescing around a shared concern to ‘robot-proof’ young people by equipping them with non-automatable skills and thereby ensure the future productivity and prosperity of the ‘digital economy’ (Means 2018). From this perspective, the policy challenge is to reform education to prepare young people to work with machines rather than compete with AI.

The penetration of data analytics and learning analytics technologies into education has also been accomplished by wider networks than government departments alone. Global edu-businesses such as Pearson and Civitas Learning are powerful analytics advocates, supported by think tanks, non-governmental education agencies, wealthy philanthropies, venture capital firms, and technology sector consortia. The current trend in AI in education can be traced to sprawling networks of business leaders, key government supporters, high-profile educational ‘gurus’, entrepreneurial startups, industry consortia and funding schemes. These current efforts to embed AI and data analytics in education exemplify how ‘fast policy’ is being done through edtech experts and the new power networks to which they are connected. How education policy responds to AI in coming years, and what networks are involved in those debates and proposals, will be a core agenda for research in our field.

Edtech policy machines

The second reason for emphasizing new power networks is that we can see education policy as being done *through* digital technologies. By this we mean that certain technologies are becoming proxy policy implementation devices—or *edtech policy machines*. As more ed-tech products adopt platform business models from the domain of commercial social media, they are cascading out to users—teachers, leaders and students—through network effects, at international scales impossible to attain by local or national sites of governmental policymaking. Perhaps it makes sense to say that, although government education ministers still retain formal authority over policy, in many ways edtech programmers, business managers and entrepreneurs are gaining more influence over the direction of education at an international scale. They are introducing ‘shadow’ policies into education. Research in educational technologies and media would benefit from a much closer engagement with the policy work performed by edtech apps, platforms, infrastructures, and the tangles of code, algorithms and analytics that enable them to function.

Within the policy studies field, ample attention has been given to the international influence of the OECD, yet some edtech products and services directly reach into the practices of teachers and students at scales even the OECD cannot match.

They are making policy on the ground through being embedded in pedagogic routines at huge scales that do not recognize the traditional boundaries of regional or national policymaking locales. This means examining edtech companies and their wider networks as proxy policymaking coalitions that often operate at great distance from either the education systems or the schools they influence.

Google's G Suite, for example, already operates at global scale through the use of Chromebooks in schools, subtly shaping the classroom through hardware and software rather than policy prescription. The journalist Natasha Singer (2017) singled out Google Chromebooks as a key way that Silicon Valley had staged a 'takeover' of the classroom. Perhaps more subtly, we can say that Google Chromebooks are now key global policy actors in schools—enabled to expand into schools through networks of commercial influence, lobbying, financial prowess, marketing and sales. That is to say that Chromebooks are much more than educational technologies—they are advancing agendas related to the transformation of schools directly into those schools, through the fingertips of teachers and students. They are policy machines for doing the reformatory work normally done through official governmental channels.

Another example of edtech doing shadow policy work is in the area of social-emotional learning (SEL). Government departments may now speak the language of SEL, character education, resilience, grit, growth mindset and so on, but SEL has primarily advanced through the influence that popular psychologists and economists have been able to exert over edtech companies and investors via the advocacy of philanthropic and campaigning organizations. Classroom technologies like Hero K12, Panorama and ClassDojo have successfully relayed the key ideas of SEL into the practices of teaching even in the absence of official governmental policy mandates. These SEL-based edtech products can be understood as practical techniques of policy implementation at huge international scale—with reach and penetration exceeding that of national or regional departments of education. Indeed, it might even be argued that edtech has been a key driver of the SEL movement, with various products extending across school settings internationally ahead of official policy directives.

Research on policy machines might also benefit from widening the net on what's considered 'edtech'. A classroom app like ClassDojo is edtech, but so too is a standardized computer-based test, a learning management system, an online program management platform, and all the back-end data and learning analytics that increasingly infuse educational institutions. These are parts of the largely invisible architecture of education, and do significant policy work by setting coded instructions and algorithmic rules for how things can or should be done (Hartong & Forschler 2019). Tracing out and understanding how educational technologies

and media influence and shape education policy as edtech policy machines, or indeed introduce alternative ‘shadow’ policy agendas directly into educational settings, is a topic that should be of concern to researchers of educational technologies and media.

Researching new edtech power networks

A key locus of power in contemporary education is in edtech expert networks. With educational technologies and media now thoroughly embedded in education systems, classrooms and practices at international scale, it’s more important than ever to understand how these products, platforms and apps are not just *related* to existing or emerging education policies, but in some cases are *doing* education policy work. Edtech networks are doing ‘fast policy’ through distributed alliances of influence and by intervening directly in schools, colleges and universities.

Of course we still need situated, up-close studies of technologies in action and their effects, for better or worse, on the practices of teachers and on the development and outcomes of students. But we also need to develop a more critical appreciation of the contemporary political force of edtech, and the power networks behind it, on education at global and local scales. And that means getting up-close to the edtech experts who are building the apps, devices, platforms and infrastructures to understand how the technology gets produced, and up-close to the policy networks that are seeking to influence the future of education through those technologies and media. We would welcome submissions to *Learning, Media and Technology* that explore the emerging networks and intersections of education technology and education policy.

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